

Listing of Claims

This listing of claims will replace all prior versions of the claims.

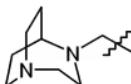
What is claimed is:

1.(currently amended.) A compound in accord with formula I:



enantiomers and pharmaceutically-acceptable salts thereof, wherein:

Q is a moiety of formula II



II;

E is selected from C₁-C₆alkyl, C₂-C₆alkenyl, C₂-C₆alkynyl, C₁-C₆alkoxyC₁-C₆alkyl, thiazolyl, oxazolyl, imidazolyl, benzothiazolyl, benzimidazolyl, quinoxalyl, furanyl, thiophenyl, phenyl, naphthyl, pyridyl, bezofuranyl, benzothiophenyl, quinolinyl or a bond, and

D is selected from hydrogen, halogen, C₁-C₆alkyl, phenyl, biphenyl, phenylsulphanyl or pyridyl, wherein D may have 1, 2 or 3 substituents selected from halogen, alkoxy or trifluoromethyl with the proviso that the compound is not 4-benzyl-1,4-diazabicyclo[3.2.2]nonane.

2.(currently amended.) A compound according to Claim 1, wherein:

E is selected from a bond, CH₂-CH₂, CH=CH, C≡C, methoxymethyl, furan-2-yl, thiophen-2-yl, thiophen-3-yl, phenyl, naphthyl, pyrid-2-yl, pyrid-3-yl, bezofuran-2-yl, benzothiophen-2-yl, benzothiophen-3-yl, quinolin-2-yl or quinolin-3-yl, and

D is selected from hydrogen, bromine, n-pentyl, phenyl, biphenyl, phenylsulphonyl or pyrid-2-yl, wherein D may have 1, 2 or 3 substituents selected from halogen, alkoxy or trifluoromethyl.

3.(original.) A compound according to Claim 1, selected from:

- 3 (1,4 diazabicyclo[3.2.2]non-4-yl) 1 phenylpropyne;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(5 phenylfuran-2-yl)methane;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(biphenyl 4-yl)methane;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(5 phenylthiophen-2-yl)methane;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(benzofuran-2-yl)methane;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(naphthalen-2-yl)methane;
- 3 (1,4 diazabicyclo[3.2.2]non-4-yl) 1 phenylpropene;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(benzothiophen-3-yl)methane;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(4 (2 pyridyl)phenyl)methane;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(6 bromopyridin-2-yl)methane;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(quinolin-3-yl)methane;
- (1,4 diazabicyclo[3.2.2]non-4-yl)(quinolin-2-yl)methane;
- 4 (4 phenyl thiophen-2-ylmethyl) 1,4 diaza bicyclo[3.2.2]nonane;
- 4 (5 (pyridin-2-yl)thiophen-2-ylmethyl) 1,4 diaza bicyclo[3.2.2]nonane;
- 4 biphenyl-3-ylmethyl 1,4 diaza bicyclo[3.2.2]nonane;
- 4 (pyridin-2-ylmethyl) 1,4 diaza bicyclo[3.2.2]nonane;
- 4 (6 phenyl pyridin-2-ylmethyl) 1,4 diaza bicyclo[3.2.2]nonane;
- 4 (3 phenyl propyl) 1,4 diaza bicyclo[3.2.2]nonane;
- 4 oct-2-ynyl 1,4 diaza bicyclo[3.2.2]nonane;
- 4 (2 benzylxy ethyl) 1,4 diaza bicyclo[3.2.2]nonane;
- 4 (4 bromo furan-2-ylmethyl) 1,4 diaza bicyclo[3.2.2]nonane;
- 4 [4 (4-bromo-phenylsulfonyl)-benzyl] 1,4 diaza bicyclo[3.2.2]nonane;
- 4 (4'-chloro-biphenyl-4-ylmethyl) 1,4 diaza bicyclo[3.2.2]nonane;

4 (3'-trifluoromethyl-biphenyl-4 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(5 (3-pyridyl)thiophen-2 yl)methane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(5 (4-pyridyl)thiophen-2 yl)methane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(4 (2-pyridyl)thiophen-2 yl)methane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(4 (3-pyridyl)thiophen-2 yl)methane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(4 (4-pyridyl)thiophen-2 yl)methane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(isoquinolin-3 yl)methane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(4 phenylpyridin-2 yl)methane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(5 phenylpyridin-2 yl)methane;
(1,4 diazabicyclo[3.2.2]non-4 yl)(6 phenylpyridin-2 yl)methane;
4 (4-bromo-thiophen-2 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
4 (5-bromo-thiophen-2 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
4 (4 (4-methoxy)phenyl-thiophen-2 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
4 (4 (4-chloro)phenyl-thiophen-2 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
4 (5 (4-methoxy)phenyl-thiophen-2 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
4 (5 (4-chloro)phenyl-thiophen-2 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
4 (5 (3-chloro)phenyl-thiophen-2 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
4 (2-quinoxalin-2 ylmethyl)-1,4 diaza-bicyclo[3.2.2]nonane;
4-(2-bromo-thiazol-5-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;
4-(thiazol-5-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane having;
4-(2-phenyl-thiazol-5-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;
4-(2-phenyl-imidazol-5-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;
4-(thiazol-2-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;
4-(benzothiazol-2-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;
4-(1-methyl-benzimidazol-2-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;
4-(3-methyl-5-phenyl-thiophen-2-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;
4-(2-phenyl-thiazol-4-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;
4-(4-(3-bromo-phenyl)thiazol-2-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane;

4-(4-phenyl-thiazol-2-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane, and
4-(4-(biphen-3-yl)thiazol-2-ylmethyl)-1,4-diaza-bicyclo[3.2.2]nonane.

4.(original.) A method of treatment or prophylaxis of human diseases, disorders or conditions in which activation of the $\alpha 7$ nicotinic receptor is beneficial which comprises administering a therapeutically effective amount of a compound according to Claim 1.

5.(original.) The method according to Claim 4 comprising treatment of a disorder selected from anxiety, schizophrenia, mania or manic depression.

6.(original.) The method according to Claim 4 comprising treatment of a disorder selected from neurological disorders, psychotic disorders or intellectual impairment disorders.

7.(original.) The method according to Claim 4 comprising treatment of a disorder selected from Alzheimer's disease, learning deficit, cognition deficit, attention deficit, memory loss, or Attention Deficit Hyperactivity Disorder.

8.(original.) The method according to Claim 4 comprising treatment of a disorder selected from Parkinson's disease, Huntington's disease, Tourette's syndrome, or neurodegenerative disorders in which there is loss of cholinergic synapses.

9.(original.) The method according to Claim 4 comprising treatment of a disorder selected from jetlag, nicotine addiction, craving, pain, and for ulcerative colitis, which comprises administering a therapeutically effective amount of a compound of the invention.

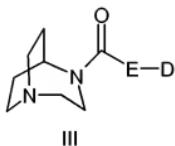
10.(previously presented.) The method according to Claim 4 comprising administering an amount of a compound sufficient to facilitate cessation of smoking.

11.(original) A pharmaceutical composition comprising a compound according to Claim 1 and a pharmaceutically-acceptable diluent or carrier.

12.(original.) A method comprising administering a therapeutically effective amount of a pharmaceutical composition according to Claim 11, for treating or preventing a condition or disorder selected from neurological disorders, psychotic disorders, intellectual impairment disorders, Alzheimer's disease, learning deficit, cognition deficit, attention deficit, memory loss, Attention Deficit Hyperactivity Disorder, anxiety, schizophrenia, or mania or manic depression, Parkinson's disease, Huntington's disease, Tourette's syndrome, neurodegenerative disorders in which there is loss of cholinergic synapse, jetlag, nicotine addiction resulting from exposure to products containing nicotine, craving, pain, and ulcerative colitis.

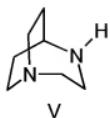
13-14.(cancelled.)

15. (original.) A method of making a compound of Formula I according to Claim 1, comprising:
a) reacting a compound of formula III

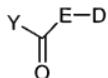


wherein E and D have the meanings as defined in Claim 1, with a reducing agent selected from diborane or lithium aluminum hydride in an inert solvent selected from tetrahydrofuran, diethyl ether, toluene, heptane, or benzene at a temperature between -20 °C and the boiling point of the solvent;

wherein said compound of formula III is prepared by reacting a compound of formula V



with a compound of Formula IV,



IV

wherein Y represents a leaving group selected from, OH, halogen, Oalkyl, Oaryl, OCOalkyl, OCOaryl and azide by treating said compound of Formula V with a compound of formula IV at 0-120 °C in a solvent selected from *N,N*-dimethylformamide, dimethylsulfoxide, tetrahydrofuran, or chloroform, optionally in the presence of a base selected from 4-(*N,N*-dimethylamino)pyridine, pyridine, triethylamine, and *N,N*-diisopropylethylamine, or

b) reductively aminating a compound of Formula IV with a compound of formula V,

wherein Y represents hydrogen.